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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/342,917	06/30/1999	HIROAKI SUGIURA	862.2900	7289

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER	
HAVAN, THU THAO	

ART UNIT	PAPER NUMBER
2672	20

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/342,917	SUGIURA, HIROAKI	
	Examiner	Art Unit	
	Thu-Thao Havan	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-6,11 and 12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-6, 11-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Claims **1, 3-6, and 11-12** are pending in the present application.

Response to Arguments

Applicant's arguments filed December 19, 2003 have been fully considered but they are not persuasive. As addressed below, Komaki and Kasson et al. teach the claimed limitations.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a floating point computation) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Komaki discloses grids arranged at non-uniform intervals and a constant greater than a value corresponding to a maximum interval of the grids (col. 9, line 61 to col. 11, line 14). For example, when k is eight, the interpolation to be performed becomes an eight point interpolation using eight grid point data. In this case, the interpolation space becomes cubic. On the other hand, when k is five, the interpolation to be performed becomes a five point interpolation using five grid point data. The shape of the solid body to express the interpolation space is then variable depending upon selection of the five grid points.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims **1, 3-6, and 11-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Komaki (US patent no. 5,883,821) in view of Kasson et al. (US patent no. 5,390,035).

Re claim **1**, Komaki teaches a data conversion method of performing image processing on image data expressed in plural components by using a multi-dimensional look-up table and outputting processed image data comprising the steps of setting grid positions of the multi-dimensional look-up table, obtaining output data of grid points of the multi-dimensional look-up table which corresponds to the input image data (col. 1, lines 51-67); generating a weight table to store weight values corresponding to the plural components based on the set grid positions wherein the weight values are calculated by an integer computation, obtaining the weight values corresponding to the plural components of input image data by referring to the weight table (col. 9, lines 35-44), calculating the processed image data which corresponds to the input image data by interpolation using the obtained output data and the obtained weight values wherein the interpolation is executed by an integer computation (col. 2, lines 10-30; col. 9, lines 35-44). In other words, Komaki teaches data transformation corresponds to data conversion as claimed. Data conversion is converting one data into another and data

transformation is converting data too. Furthermore, Komaki transform output data for a point from a sample point such as a grid point in a three dimensional look-up table (LUT). He teaches the input signals R, G, B is interpolated and the values are stored in the look-up table (LUT). In addition, Komaki transform output data for a point from a sample point such as a grid point in a three dimensional look-up table (LUT). Also, a function must be determined for the purpose of converting pixel color representations into known quantities of colored printer inks, typically with the amount expressed as an integer in the range of 0 to 255 for each of cyan, magenta, yellow, and black. The function accepts input values for the variables red, green, and blue, and produces output values which represent quantities of cyan, magenta, yellow, and black. Other color spaces in use as either input or output spaces include the colorimetric spaces which represent color based on the tristimulus values that represent a standard observer as defined by the Commission Internationale de l'Eclairage. CIE L*a*b*, CIE L*u*v*, and CIE XYZ are three spaces.

In addition, Komaki discloses grids arranged at non-uniform intervals and a constant greater than a value corresponding to a maximum interval of the grids (col. 9, line 61 to col. 11, line 14). For example, when k is eight, the interpolation to be performed becomes an eight point interpolation using eight grid point data. In this case, the interpolation space becomes cubic. On the other hand, when k is five, the interpolation to be performed becomes a five point interpolation using five grid point data. The shape of the solid body to express the interpolation space is then variable depending upon selection of the five grid points.

Komaki *fails* to specifically disclose "normalized by a sufficiently large value," as claimed. However, Kasson teaches normalization for data transformation (col. 22, lines 41-65; col. 23, lines 14-23 and lines 43-68; col. 9, lines 38-58; fig. 16). Kasson teaches color conversion using a grid points by normalizing with the appropriate maximum values for each dimensional of the color space in relations to tetrahedron packing. Furthermore, a maximum value is any large value. In figure 16, Kasson graphically teaches the normalized error using a function.

Therefore, taking the combined teaching of Komaki and Kasson as a whole, it would have been obvious to combine normalized by a sufficiently large value as claimed to the modified system of Komaki. Doing so would enable accuracy and efficiency without sacrificing speed or error performance.

Re claim **3**, Kasson discloses a sufficiently large value is a power of 2 (col. 2, lines 55-65; fig. 4). In other words, Kasson teaches a power of 2 for the normalization operation.

Re claim **4**, Komaki discloses grid points are set in non-uniformity and the grid positions corresponding to each of the components are set the same (fig. 2-3). In figures 2 and 3, Komaki discloses the grid points are equal to each other and he performs interpolation by dividing interpolation grid into equal size thus each position are the same.

Re claim **5**, Komaki discloses input value is image data in one of RGB, CMY, and XYZ color spaces (col. 1, lines 17-36 and 51-67; col. 9, lines 1-34). In other words, Komaki teaches input luminance signals RGB.

Re claim **6**, the limitation of claim 6 is identical to claim 1 above. Therefore, claim 6 is treated with respect to grounds as set forth for claim 1 above.

Re claim **11**, the limitation of claim 11 is identical to claim 1 above except for a computer program product comprising a computer readable medium having a computer program code. Therefore, claim 11 is treated with respect to grounds as set forth for claim 1 above except for a computer program product comprising a computer readable medium having a computer program code. As for a computer program product comprising a computer readable medium having a computer program code, Komaki teaches a program readable by a computer (col. 4, lines 57-59). When a computer has program then executes to allow the coding to program the system.

Re claim **12**, the limitation of claim 12 is identical to claim 1 above except for a computer readable medium recorded data. Therefore, claim 12 is treated with respect to grounds as set forth for claim 1 above except for a computer readable medium recorded data. As for a computer readable medium recorded data, Komaki teaches a storage medium storing a program readable by a computer (col. 4, lines 57-59). A program readable by a computer corresponds to a computer readable medium recorded data. A recorded data is a stored data.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu-Thao Havan whose telephone number is (703) 308-7062. The examiner can normally be reached on Monday to Thursday from 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (703) 305-4713.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Thu-Thao Havan
March 4, 2004

JEFFERY BRIER
PRIMARY EXAMINER